

IO Tracking

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Tracking meeting
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IO tracking

□ Procedure:

1. Seeded with Silicon standalone tracks
 2. Extrapolate tracks to COT, taken into account multiple scattering
 3. Attach COT hits, from which fit a COT track
 4. Refit the seed silicon standalone track using parameters of the COT track as initial values (OI style)
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IO tracking on 4.11.0 MC

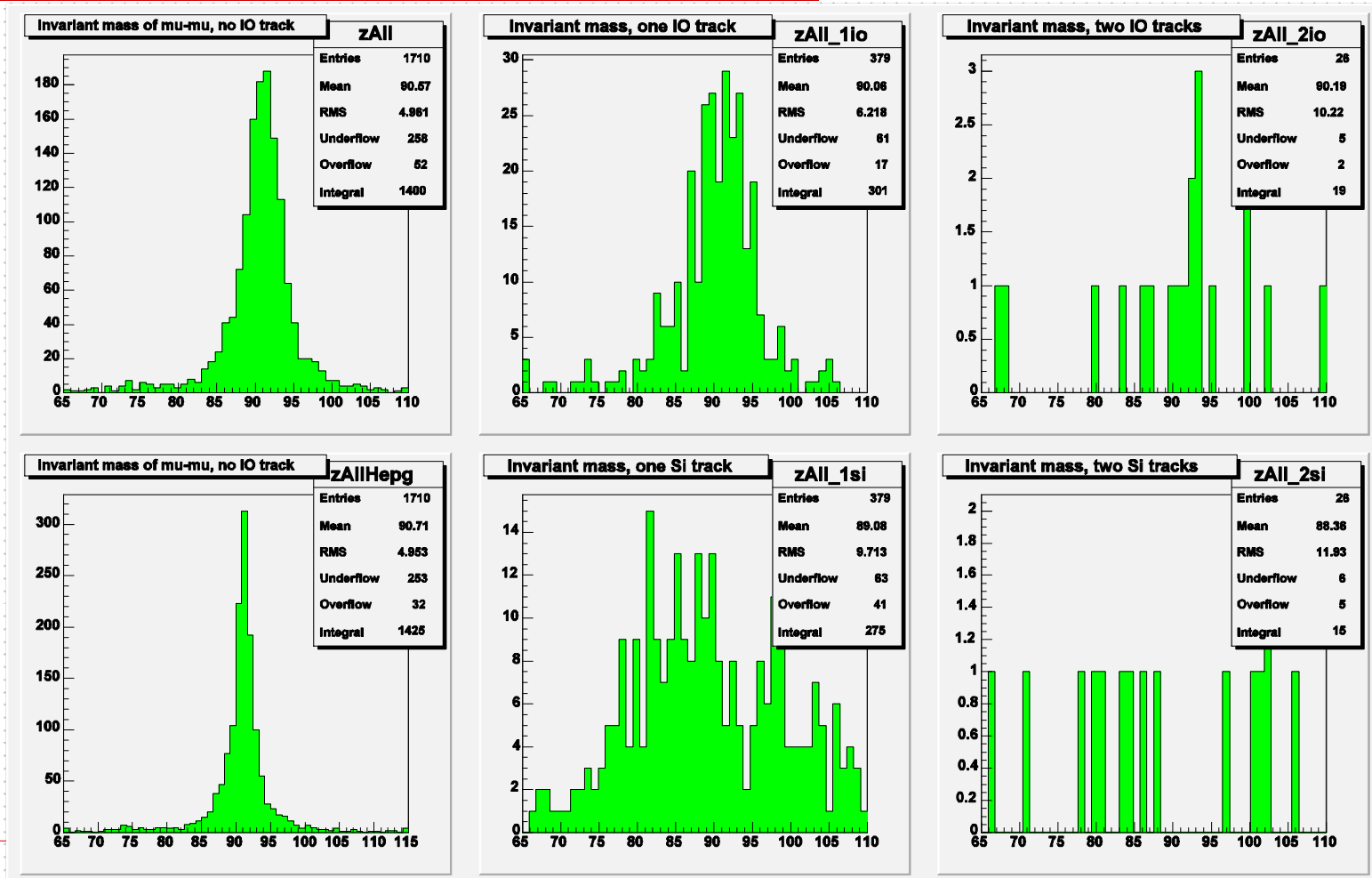
- ~8k Z? $\mu\mu$ events

	SISA	IO
?c RMS	4.98E-05	3.64E-05
?d0 RMS	0.00249	0.00223
?F0 RMS	0.00087	0.0007
?z0 RMS	0.201	0.158
?cot? RMS	0.027	0.021

- Efficiency = 94% for particles with $P_t > 2.0 \text{ GeV}/c$, and pass at least two SLs

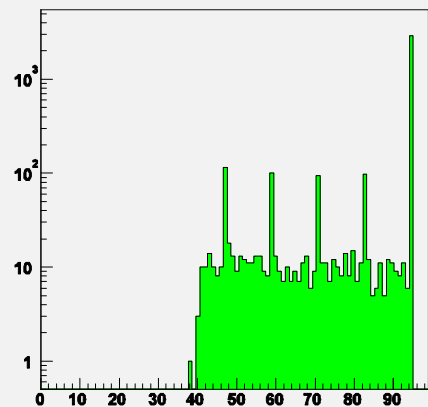
<see comparator.ps>

$Z \rightarrow \mu\mu$ MC

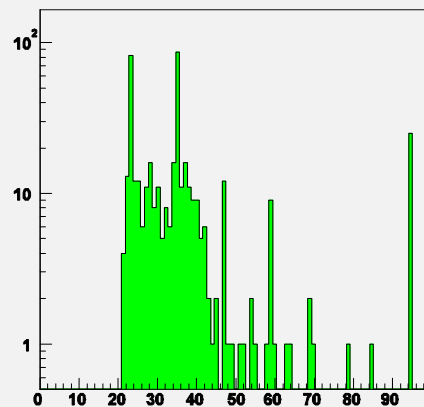


$Z \rightarrow \mu\mu$ MC

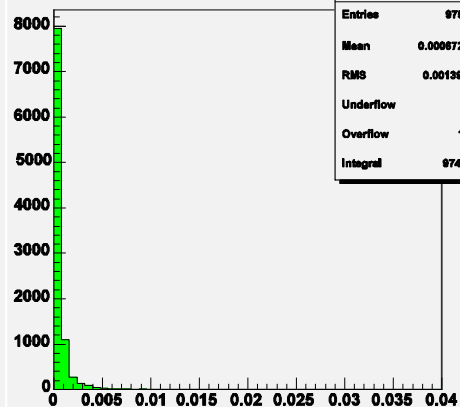
last CT Layer



last CT Layer for IO tracks



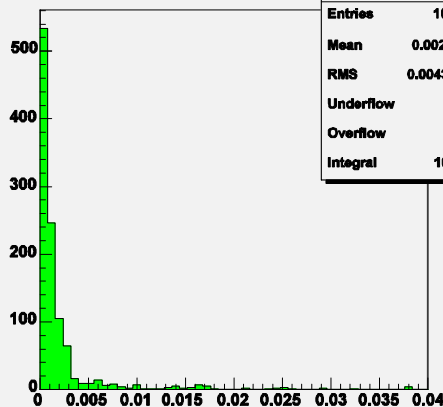
ΔR (hepg, rec)



match

Entries	9760
Mean	0.0008722
RMS	0.001396
Underflow	0
Overflow	10
Integral	9740

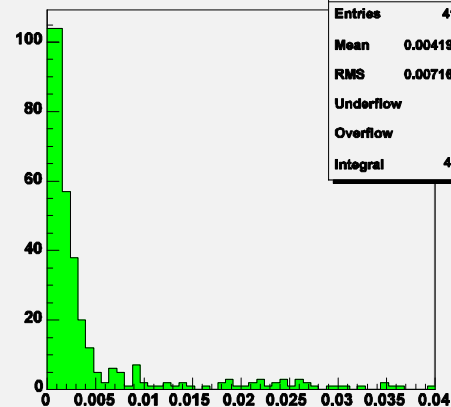
ΔR (hepg, rec) for IO tracks



matchIO

Entries	1077
Mean	0.002082
RMS	0.004348
Underflow	0
Overflow	7
Integral	1070

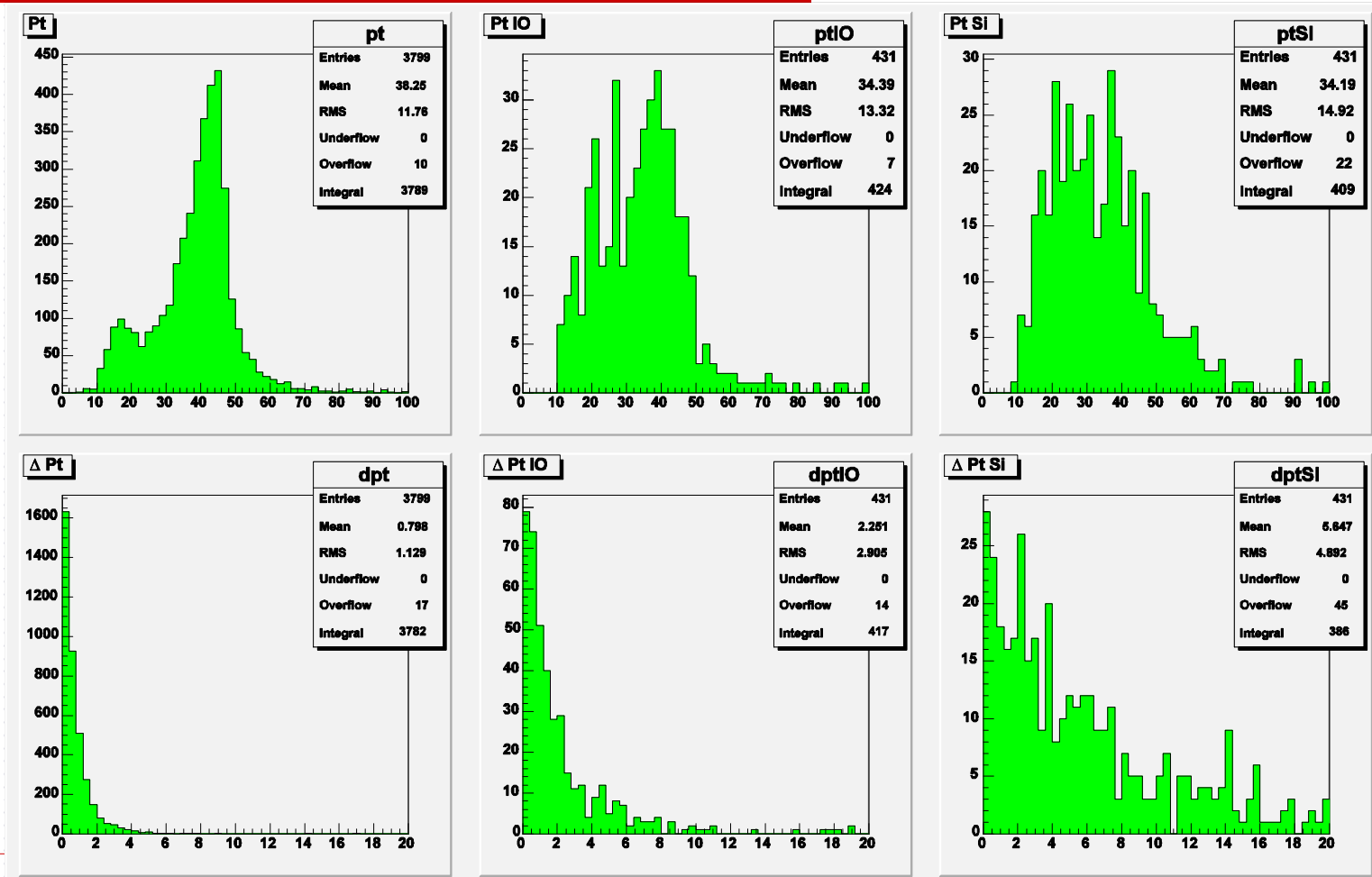
ΔR (hepg, rec) for SI tracks



matchSI

Entries	413
Mean	0.004198
RMS	0.007161
Underflow	0
Overflow	7
Integral	406

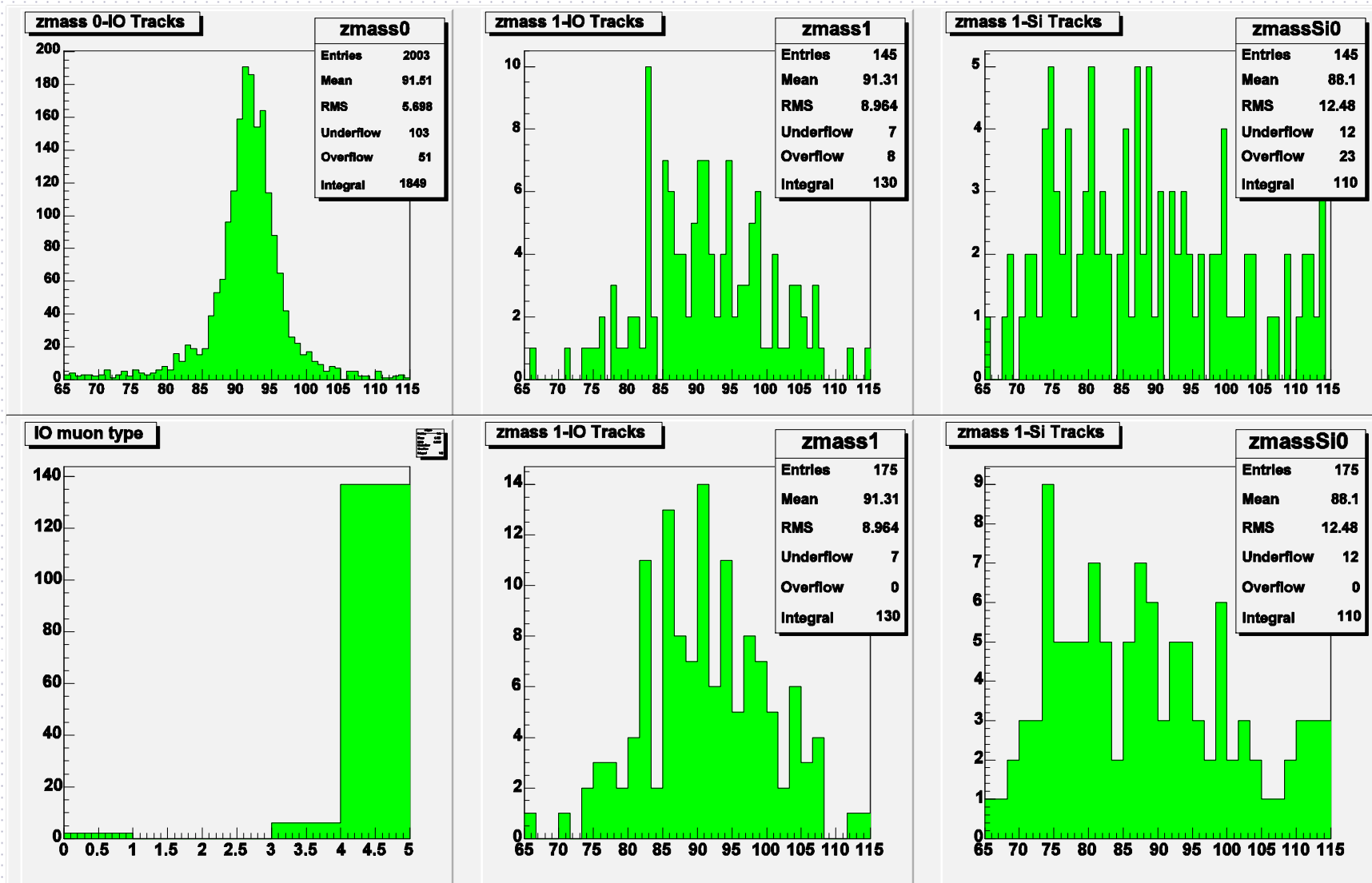
$Z \rightarrow \mu\mu$ MC



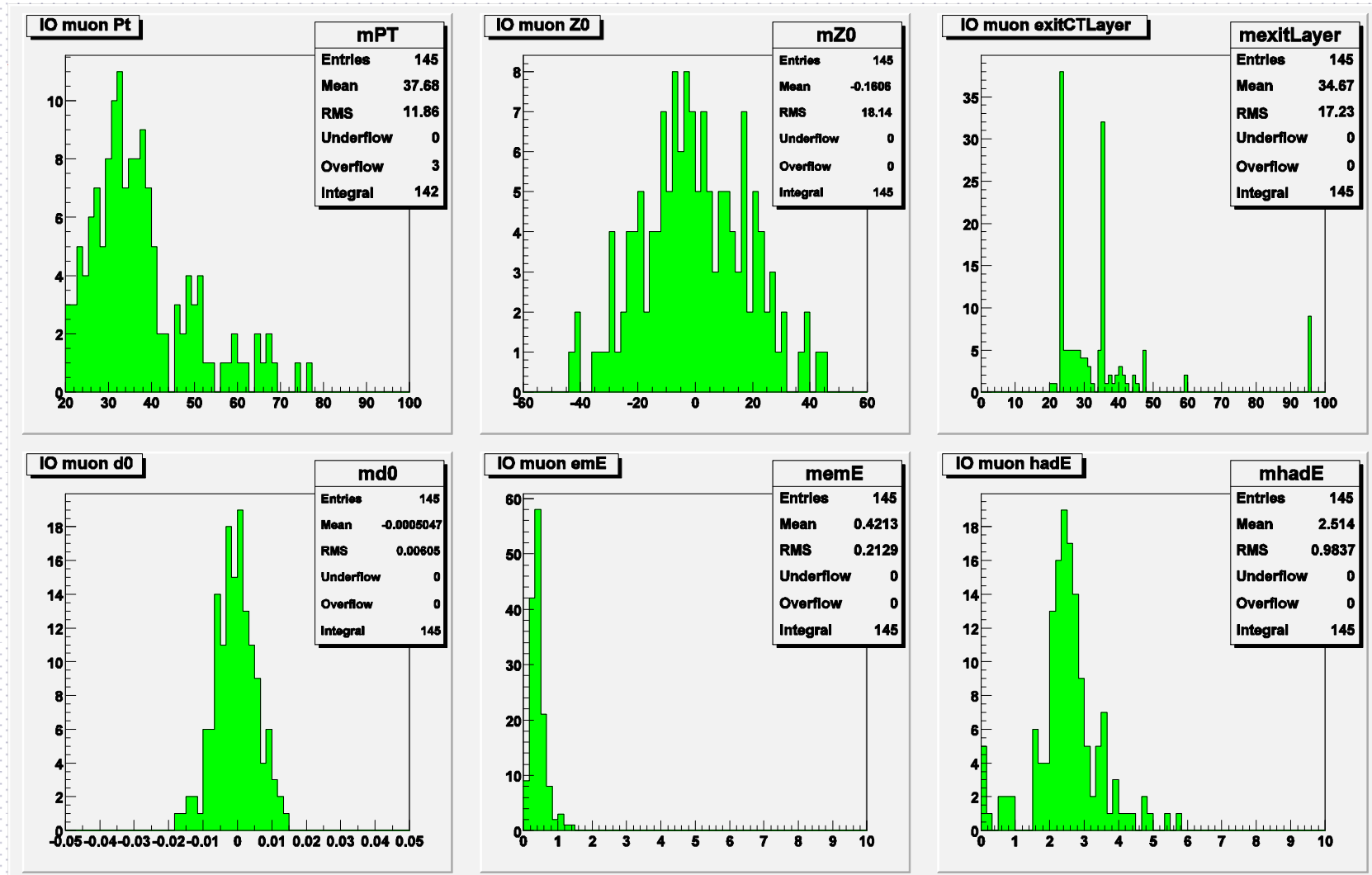
IO tracking on data

- bhmu08
 - run > 149717
 - Silicon alignment table “150034 7 TEST”
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On data bhmu08



On data bhmu08



Plan

- ☐ Redo once new silicon alignment becomes available
 - ☐ Study IO tracking on other data samples
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